"ANALYTICAL STUDY OF GROWING ADOPTION OF DIGITAL PAYMENTS SYSTEM WITH SPECIAL REFERENCE TO MUMBAI CITY"

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1) Introduction:

1.1) Digital Payment system:

Digital payments are ones made via digital or internet channels without the exchange of actual money. Such a payment, which is sometimes referred to as an electronic payment (e-payment), occurs when money is transferred from one payment account to another in which both the payer and the payee utilize a digital device, such as a cell phone, computer, credit, debit, or prepaid card. A person or a firm could be the payer and payee. This means that in order for digital payments to be made, both the payer and the payee must have a bank account, an online banking method, a device from which they can make the payment, and a medium of transmission, which means that they must either have registered with a payment provider or have a way of making payments set up. The rapid growth of digital payments over the past 50 years has altered how consumers and businesses manage their day-to-day transactions and make payments for goods and services.

Digital Payment Systems, which introduce formal financial services to people who do not have access to an appropriate banking system, play an important role in encouraging broader financial inclusion. This in turn creates a positive economic cycle in which rising consumption leads to increasing output, more jobs, and higher wages. Both online and in-person transactions for digital payments can be made to the payee. For instance, both digital payment transactions would occur if a customer made a purchase from a local grocer and paid him over UPI while doing so in-person. Digital payments can be made using a variety of methods, including mobile wallets, PoS terminals, NEFT, AEPS, and UPI. The Indian government has been promoting the development of a cashless economy as part of its Digital India agenda. In India, the government has now made digital payments available for this purpose. Digital payments are made through online channels without a physical exchange of money. Due to the widespread acceptance of these payment methods, numerous forms of financial transactions have emerged. You should be knowledgeable with the many

kinds of digital payment systems as a business owner so that you may take advantage of them when conducting business.

1.2) Types of digital payment systems in India

Today, we efficiently conduct online transactions by choosing your preferred digital payment solutions, including the following:

1.3) Bank cards

Bank cards include Prepaid, Debit, or Business or Commercial Credit Cards as alternatives to cash payments. Customers use Credit and Debit Cards for multiple reasons such as convenience, safety, mobility, etc.

1.4) Unstructured Supplementary Service Data (USSD):

USSD is designed to include sections of Indian society that do not have access to proper banking facilities. Customers can use USSD to execute mobile banking transactions without an internet-enabled smartphone. They can simply dial *99# using any phone to utilise banking services such as interbank fund transfers, balance inquiries, etc.

1.5) Aadhaar Enabled Payment System (AEPS):

The National Payments Corporation of India launched AEPS to leverage Aadhaar authentication for banking purposes. Customers can use their Aadhaar-enabled bank accounts to transfer funds without any physical activity. Customers can also use AEPS to initiate digital payments at PoS (Point of Sale) terminals and micro ATMs using biometric and Aadhaar Card information.

1.6) United Payments Interface (UPI):

UPI is a digital payments system that brings various bank accounts under a single application. This feature allows easy money transfers between parties with just a few clicks. Customers do not need a card or bank details, making it a popular digital payment method.

1.7) Mobile wallets

Mobile wallets enable customers to carry cash digitally. Users can link their bank accounts to the wallet and enjoy secure digital transactions or use the balance to transfer money.

1.8) Internet and mobile banking

Internet banking has allowed customers to avail themselves of modern banking and financial services via a bank's website. Similarly, Mobile Banking enables users to access a bank's services via apps downloaded on mobile devices.

2) Customer Experience and Digital payment system:

The following are the elements of Customer experience in DPS includes:

2.1) Customer Satisfaction

Customer satisfaction is influenced by many factors like Customer experience elements- Security, convenience, usefulness, safety, confidence, reliability, speed, accuracy, confidence

2.2) Perception

Customers' perceptions of DPS are determined by their experiences along the usage and benefits

2.3) Knowledge and understanding

Customer experience is also shaped with full awareness and implications of technology in terms of adoption of DPS

2.4) Issue resolution or Risk Evasion

It's unrealistic to expect all customer interactions to be completely smooth, so it's crucial to have a skillful customer service team to handle any issues that may arise. Effective communication with customers can help resolve any points of friction and improve the overall customer experience.

2.5) Benefits

Offers, rewards, incentives, time saving, cost saving factor involved in using DPS.

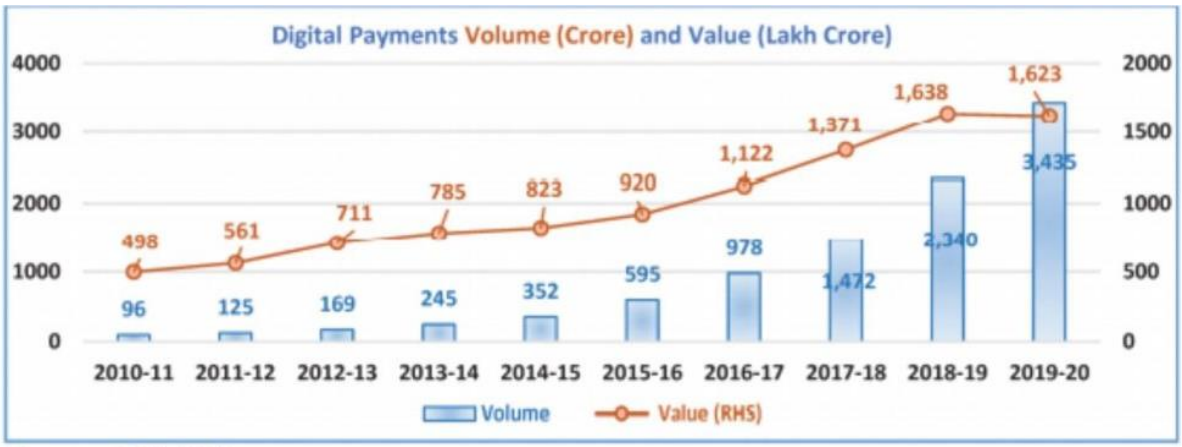
2.6) Significance of the study

The number of users of Digital payment system is increasing daily. It is crucial to understand what makes the positive customer experience and factors contributing growth in adoption of Digital payment services. Studies and statistics on the personal behavioral factors that influence a person's choice of payment behavior in the Indian economy are scarce. Given the extreme variety of our community, results from different samples can differ. Periodic surveys to evaluate user experience and attitude toward digital payments are advised by the High-Level Committee on Deepening Digital Payments. The current work is a modest effort to close the knowledge gap in the context of such analysis by surveying real customers about their experience and adoption of

DPS.

3) Growing Adoption of DPS

Fig 1: Surge in DPS usage



Source: RBI Data

Payment preferences have changed from paper clearing to digital payment during the past ten years. According to RBI data, retail electronic payments climbed from 18% to 61%, while paper clearing decreased from 60% of all retail payments in 2010–11 to just 3% in 2019–20. In terms of value, paper clearing accounted for 89% of the entire retail payment system in 2010–11; by 2019–20, that percentage had dropped to 20%. Digital payments increased from 498 billion transactions worth Rs. 96 billion crores in 2010–11 to 1623 billion transactions for Rs. 3,435 billion crores in 2019–20.Growing Adoption factors are Perceived uses, Benefits and perceived risk factors assessment.

This study is about analysis customer or user experience of Digital Payment system and also to explore factors influencing adoption of technology and its association is tested with demographic factors and other important variables taken from review.

4) Definition

1. Digital Payment System:

   An electronic payment, often known as a digital payment, is one that moves money from one payment account to another through a digital device or channel. Payments done using bank transfers, mobile money, QR codes, and payment methods like credit, debit, and prepaid cards may all fall under this criteria.

2. Customer Experience:

Customer experience is everything related to a system that affects a customer's perception and feelings about it.

3. Mumbai City:

The city of Mumbai consists of two distinct regions: Mumbai City district and Mumbai Suburban district, which form two separate revenue districts of Maharashtra.

5) Research Problem :

Statement of Problem: The Analytical study of Customer Experience and Growing adoption of Digital payment system in Mumbai city

A research problem is defined as any challenge or question that has to be answered, or any problem that a researcher or society encounters, either theoretically or practically, and for which they wish to discover a solution.

Identification of the study's problem: - In the current context, The digital payment system in India is poised to become a significant success. The research also suggests that people are using cash more frequently. We employ a novel online survey-based dataset to explore how variables like "perception" and "trust" in digital payments, as well as experience with online frauds, affect customers' payment behavior, even though aggregate country-level data can show general preferences of citizens.

A person's use of digital payment methods is influenced by her customer experience consisting of Perception, Satisfaction and understanding of these tools, as well as by her trust in the overall payments framework and banking system in general. While demographic factors like age, gender, and income and variables like awareness are relevant factors that determine this choice.

Research Question: It is important to investigate how factors like adoption of technology based "perception" and "trust" in digital payments, as well as experience of risks , affect customers' payment behavior. A person's perception, satisfaction, and comprehension of these tools, as well as her trust in the entire payments system and banking system in general, all have an impact on how they use digital payment methods. While research also measures key aspects that influence this decision include variables like awareness as well as demographic factors like age, gender, and income.

6) Objective of the Study :

The following are the objectives of the study :

1) To Study digital payment system and its classification

2) To examine the customer experience relating to Digital payment system in Mumbai city.
3) To highlight the factors responsible for growth in adoption of Digital payment system Mumbai city.
4) To know the association of demographic factors with customer experience and adoption of digital payment system in Mumbai city.
5) To suggest measures for the risks and challenges in the safe usage of DPS in Mumbai city.

7) Research Hypotheses

Research Hypotheses: The following hypothesis has been developed to answer the research questions:

H0: There is no association of Demographic factors and positive customer experience in using DPS

H1: There is association of Demographic factors and positive customer experience in using DPS

H0: There is no association of Demographic factors and growing adoption of DPS

H1: There is association of Demographic factors and growing adoption of DPS

H0: There is no significant difference in customer experience between various modes of DPS

H1: There is significant difference in customer experience between various modes of DPS

H0: There is no significant difference in growing adoption between various mode of DPS

H1: There is significant difference in growing adoption between various mode of DPS

H0: There is no correlation between increased awareness and growing use of DPS in last five years

H1: There is correlation between increased awareness and growing use of DPS in last five years

8) Review of literature

In the study provided by Garg and Panchal (2016), a survey of the Delhi region is the central focus. According to responses from the same, a cashless economy will assist to eliminate fake currency production, cash-related robberies, and terrorism, which in turn will improve the nation's overall economic growth. According to data gathered, 88% of the sample population is aware that the nation is moving towards a cashless society. Only a small number of respondents, though, indicated that they did not enjoy this element.

Another 55.1% of the respondents concurred that digital payment methods need to be more widely adopted in India.

There are certain drawbacks with it as well, which the researcher has described in its research. These include a lack of excitement for the implementation of a cashless economy, a lack of system readiness, the fact that the country is now dealing with other big issues that must be resolved within a certain time frame, and inadequate technological availability. The study also noted that people typically enjoy their freedom to use cash currency to the fullest degree and that there are no restrictions placed on it by the government. It also serves as one of the main obstacles to the country's transition to a cashless economy. Additionally, respondents concur that it's critical for the RBI to pass legislation to support and promote cashless transactions.

According to the study done by Vidhyashree, Yamuna, and Nithyashree (2015), it concentrated on the effect of these new digital payment systems on customers and any issues they could have had. The researcher has gathered data from 30 PayU money and Paytm users in order to arrive at certain conclusions. In the sampled age ranges of 18 to 30 and 30 to 45 years, there is 100% awareness of Pay U and Paytm. 85% of people between the ages of 18 and 30 and 80% of people between the ages of 30 and 45 are pleased with the discounts and cashbacks offered by the applications in each of their many functions. The researcher has run across difficulties with consumers having trouble getting their reimbursements applied to their accounts. The procedure is discovered to be time-consuming and less precise in terms of the amount. Another typical issue that users of these two services frequently encounter is a delay in the processing of payments. Additionally, compared to other government-issued digital payment options, Paytm and PayU have been able to offer user interfaces that are simple and practical.

According to Shah's (2017) research, which sought to examine the numerous issues and future prospects associated to the nation's digital payment system. The research paper has also been useful in examining numerous issues with the cashless economy and difficulties the administration has encountered in making the nation cashless. The researcher has uncovered a number of difficulties as a result of this research. It includes concerns with poor internet, as the average speed was found to be 5.6 mbps in the fourth quarter of 2016. India is ranked 97th out of 149 countries in the world for internet speed. Another significant problem that has been recognized is the risk of piracy. Due to the

prevalence of privacy, it has become more challenging for the digital media sector to sell its output and generate profits. Problems with internet payments are another important current concern. The study has also discovered a further problem, namely the fact that some transactions in India are still only possible with cash. Cash thus continues to play a specific function in the general rejection of digital media for transaction. 3.4 Studies on awareness and perception have been conducted.

Rese, Baier, Geyer-Schulz, and Schreiber (2017) found that the fundamental question that has emerged is whether attitudes and motivations affect whether a consumer intends to scan or utilize a QR code. Perceived ease of use, apathetic motivation, attitude, and behavioral intentions are the items chosen for the same. The same is measured using a Likert scale for each of the selected items. According to the findings, the use of QR technology has a stronger impact on consumer attitudes toward it. Offering consumers strong incentives to utilize it, however, can increase their intents. The researcher has also found other processes related to this, including activation and conversion. The convenience of using the QR code scan approach, which can help to reduce waste and increase overall efficiency of the procedure, is ultimately the most crucial factor that the researcher has underlined. Apathy, perceived utility, and perceived simplicity of use are the three customer attitudes regarding QR code technology that have been identified.

Singh and Rana's (2017) study sought to understand customer perceptions and the influence of demographic characteristics on the adoption of digital payment methods. In order to examine customer perceptions regarding the adoption of digital payment, primary data from 150 respondents has been collected in order to meet the requirements of the aim being established. This original data was gathered by the researcher via interviews. Researchers have come to the conclusion that demographic factors do not significantly affect the adoption of digital payment methods, with the exception of education. The researcher has also discovered that places with high levels of education, like Delhi and the National Capital Region, have a higher likelihood of accepting digital payment methods. constant increase in users.

Ming-Yen Teoh, Choy Chong, Lin, and Wei Chua (2013) performed research with the aim of understanding the variables impacting Malaysian consumers' perceptions of electronic payments. 200 respondents were given the self-reporting questionnaire that the

researcher chose and distributed. 183 legitimate responses were received, and they were further taken into account for additional statistical analysis. The findings indicate that everyone who makes electronic payments uses the same methods that are offered by banks, at home, and at the workplace. Those who frequently use these digital payments at school make up a very small percentage of the population. There is no question that they utilize the convenience of digital payments. The statistical analysis yielded an R2 value of 56.1%, indicating that differences like self-efficacy and simplicity of use are significantly related to how consumers perceive digital payments. Furthermore, there is little correlation between security and trust and how consumers see digital payments. In the end, researchers were able to conclude that the government must prioritize security and trust. Additionally, the banking industry must make sure that all of the transactions that consumers carry out are secure and discreet.

Png and Tan (2019), show that concerns about privacy emerged as one of the main psychological factors causing a bias towards cash for retail transactions. Consumer perceptions on safety/risk, convenience/ease of use, anonymity and costs have been shown to affect payment systems adoption significantly.

Bagnall et al.(2014), analysed data from cross-country consumer diary surveys and found that consumers who rated cash high on ‘ease of use’ ended up using it more.

Jonker N (2007), In a study assessing payment perception of Dutch consumers, non-price parameters such as ‘acceptance’, ‘convenience’, ‘transaction speed’ and ‘safety’ were used to gauge the perception of payment instruments used at PoS terminals . Several studies have used the Technology Acceptance Model (TAM) to show ‘perceived usefulness’ and ‘perceived ease of use’ have a significant impact on behavioural intention and thus, actual use of electronic payment systems.

Maqableh M (2015), Perceived trust in the payment system is shown to have a positive effect on the usage of digital modes of payment . While the central bank and banks are traditional regulators and service providers of payments systems respectively, non-banks have also emerged as new players in the framework.

Galiani S, Gertler P, Ahumada CN (2020), A recent empirical study conducted by the Monetary Authority of Singapore found that trust in banks impacts the nature of the transaction. A cross-country analysis shows that residents in countries that reported lower trust in banks preferred cash for making transactions. In some cases, while an increase in trust can lead to the opening of accounts, it might not translate to actual usage of those accounts.

9) Research Gap

This particular Research will be involving certain new areas for exploring the following things:

1. The Growing trend of adoption of Digital payment system and its contributing factors will be highlighted
2. Analysis of Customer experience like perception, understanding and satisfaction will be done in relation to Digital payment system.
3. Suggestive measures relating to Challenges of Digital payment system usage and safety guidelines.

10) Research Methodology :

Mumbai was chosen as the research area because it has a large population with a wealth of financial information. The current study analyses digital payment user's customer experience and growing adoption of related technologies. This is a descriptive field investigation. So, using both primary and secondary data, the researcher developed a model.

Research Design: Our research design will be descriptive and exploratory in nature, and our study will be a descriptive as analysis the growing trend and exploring factors influencing these customer experiences of Digital payment system.

Nature, Scope and Population of the study: The purpose of this study will be to survey DPS users and undertake survey on their experience and adoption as a mode of payment. Mumbai city covers an area of 157 sq km consisting of 9 wards. It expands from Colaba in the southern part of the city to the northern areas of the city like Sion and Mahim and bustling with people from various cultures.

Sampling: The present study is an empirical survey of descriptive type. Therefore, the researcher has used research methodology to suit an empirical survey. The method of Cluster cum convenience sampling with Multi stage techniques issued in the study.

Due to time and cost constraint, the research would be confined to Mumbai region only. The universe consist DPS users who are 18 and above in the city of Mumbai. The sample sizes of 800 users were considered for the study conveniently drawn from clusters of Mumbai city.

Data collecting method:

Primary data

For the goal of gathering primary data, the main component of this study, the researcher chose a primary survey. A systematic questionnaire created with this objective in mind was used to collect the primary data. The researcher has created questionnaires that include all relevant information about the investors' demographics, including their age, income level, gender, level of education, and occupation.

Primary data has been collected from Mumbai region by use of:

- Questionnaire
- Personal interviews
- Secondary data

The secondary data has been collected from sources already existing like-

- Research Journals
- Newspapers
- Periodicals
- Magazines
- Government Publications
- Bank reports
- Thesis
- Conference papers
- RBI Publications
- Websites

Statistical Techniques: The following statistical tools will used in the study.

- Descriptive and Frequency Statistics
- Mean, Standard deviation, Variance and Coefficient of Variation
- Chi Square test
- t– test Analysis
- One way Analysis of variance (ANOVA)

11) Scope and Limitation

Scope of the Study: The study will solely look at trends in adoption of Digital payment system and customer experience which contributed for it.

Limitation of the Study: No study is without limits. The following are the study's limitations

1. Secondary data will be used in the investigation. Industry and bank Reports, journals, magazines, and websites will be used to collect data. As a result, the constraints of secondary data persist and apply to this study as well.
2. In the study the researcher faced physical limitations as well as constraints of cost and time.
3. Mumbai City is the Geographical constraint relating to sampling
4. DPS users of Mumbai city above 18 years.
5. The study will suffer from sample constraints.

12) Tentative Scheme of Chapterization

Chapter 1	**Introduction**: - This chapter deals with the subject matter consisting Background of the study, Focus of the Study, conceptual Framework
Chapter 2	**Review of Literature:** - Review of Literature deals with review some work analysis and discussion already made in Analysis in the form of thesis and journals and also analyses the gap
Chapter 3	**Research Methodology**: - Research Methodology Chapter includes Research Problem, Design, Approach, Strategy, Sampling, Data Collection Procedure, , Period of Study, Data Processing, Data Analysis Tools and techniques
Chapter 4	**Data Analysis &Interpretation: In** this chapter Presentation and Analysis of Data related. Study analyses the Growth of DPS users, customer experience, and adoptionin theMumbai region. Data collected and interpreted basedon the objectives and the hypothesis. The information collected from the study area in tabulation and analysis
Chapter 5	**Findings, Conclusions, and Future Prospects of Research**: - In this chapter finding of the study, conclusion, recommendations and future prospects of research has been discussed

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